

*Comments and questions regarding this section may be directed to the person listed below:*

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*NOTE: This Section's Sign-Off Record is maintained in the ESH&A Office, G40 TASF.*

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**REVISION / REVIEW LOG****SECTION 6 – ENVIRONMENTAL PROTECTION PROGRAM**

<b><u>Review Number:</u></b>	<b><u>Effective Date:</u></b>	<b><u>Contact Person:</u></b>	<b><u>Pages Affected:</u></b>	<b><u>Description of Revision:</u></b>
0	10/11/99	Dan Kayser	All	Original Issue
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## SIGN-OFF RECORD

The Environment, Safety Health and Assurance Program Manual has been reviewed and approved as documented below:

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_  
Environment, Safety, Health & Assurance

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_  
Division Director, Chief Operations Officer

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_  
Division Director, Science and Technology

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_  
Deputy Director

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_  
Director

*Note: Original Sign-off Record with signatures is on file with ESH&A.*



## 6.0 ENVIRONMENTAL PROTECTION PROGRAM

This program encompasses all of the general overriding environmental protection principles that apply at Ames Laboratory. It refers to specific policies and procedures for protecting all environmental media that the Laboratory has the potential to impact. It cites appropriate regulations and rules identified in the Ames Laboratory Work Smart Standards (WSS).

### 6.1 ENVIRONMENTAL MANAGEMENT SYSTEMS

*Applicability Statement: This section applies to All Ames Laboratory Employees.*

#### 6.1.1 REFERENCES

Executive Order 13148, Greening the Government through Leadership in Environmental Management  
Procedure 10200.75, Environmental Aspects Procedure  
Plan 10200.016, Ames Laboratory Integrated Safety Management System Description  
Policy 10200.010, Ames Laboratory Integrated Safety Management System Policy Statement  
Form 10200.161, Environmental Management System Self-Declaration

#### 6.1.2 BACKGROUND

Federal Facilities are required by Executive Order 13148, Greening the Government through Leadership in Environmental Management to have an environmental management system (EMS) in place by December 31, 2005. The Ames Laboratory's EMS is fully integrated into its Integrated Safety Management System (ISMS) Description, Plan 10200.0016. The Laboratory's self-declaration has been verified and approved by the DOE Ames Site Office.

#### 6.1.3 PROGRAM INFORMATION

An Environmental Management System (EMS) is a continual cycle of planning, implementing, reviewing and improving the actions that an organization takes to meet its environmental obligations. Ames Laboratory ESH&A maintains the documentation for the EMS program. The Environmental Specialist chairs the EMS Steering Group. The EMS Steering Group is made up of Scientific Staff, Program Managers and ESH&A Specialists.

**Executive Council** – The Executive Council shall determine which objectives and targets to choose based on the EMS Steering Groups recommendations. If funding is required to achieve those objectives and targets, the Executive Council will provide the necessary funding.

**Program Directors / Department Managers** – Directors/managers shall act as mentors to instill waste minimization and energy efficiency into employees under their supervision. They shall identify and take measures to eliminate or minimize the environmental impacts of their work activities.

**Environment, Safety, Health & Assurance** – ESH&A personnel shall ensure the Laboratory is in compliance with the applicable rules, regulations and guidance. ESH&A shall maintain EMS documentation and coordinate EMS Steering Group meetings.

**Environmental Management Steering Group** – The group shall discuss and recommend environmental objectives and targets to the executive council annually.

**Ames Laboratory Employees** – Laboratory employees are responsible for knowing the impacts of their activities on the environment and complying with the necessary training, policies, plans and procedures of the Ames Laboratory.

#### **6.1.4 PERORMANCE CHECKLIST**

The following checklist shall be utilized by supervisory personnel to assure compliance with this section of the Program Manual. These criteria will also be used by Laboratory personnel, DOE auditors and independent reviewers to assess the Laboratory's performance as mandated by the contractual relationship between DOE and ISU.

**Program Directors / Department Managers** shall:

- ☐ Assess potential impacts to the environment, cultural and historic sites when planning work.
- ☐ Allow for sufficient funding for environmental budget concerns.
- ☐ Notify ESH&A of new, or significantly modified, activities under supervision.

**Environment, Safety, Health & Assurance (ESH&A)** shall:

- ☐ Review work proposals for potential environmental impacts.
- ☐ Keep EMS documents current.
- ☐ Coordinate and chair the EMS Steering Group.
- ☐ Keep environmental program plans, policies and procedures current.
- ☐ Allow for sufficient funding for environmental budget concerns.

**Group Leaders / Office or Section Supervisors / Work Leaders** shall:

- ☐ Assess potential environmental impacts when planning work.
- ☐ Allow for sufficient funding for environmental budget concerns.
- ☐ Notify their management and/or ESH&A of new, or significantly modified, activities.

### 6.1.5 TRAINING

Detailed programmatic information is provided via the following institutional training modules:

<b>GENERAL EMPLOYEE TRAINING (GET) FOR NEW EMPLOYEES #AL-001</b>	
<b><i>Intended Audience:</i></b>	<i>Mandatory for all personnel.</i>
<b><i>Module Format:</i></b>	<i>Classroom Instruction. Estimated completion time: 1.5 hours.</i>
<b><i>Associated Retrain Period &amp; Format:</i></b>	<i>Retrain is required if an employee has been terminated from the Laboratory for more than a one-year period. All Ames Laboratory employees receive the Laboratory's Annual Retrain Mailing, which covers, Fire Safety, Cyber Security, Physical Security, informational updates and policy reminders.</i>

<b>HAZARDOUS WASTE GENERATOR'S TRAINING #AL-073</b>	
<b><i>Intended Audience:</i></b>	<i>Mandatory for personnel who work with hazardous chemicals.</i>
<b><i>Module Format:</i></b>	<i>Classroom Instruction with quiz. Estimated completion time: 1.0 hour.</i>
<b><i>Associated Retrain Period &amp; Format:</i></b>	<i>Annual retrain letter.</i>

<b>RADIOLOGICAL WORKER II (RADIOACTIVE MATERIALS) #AL-077</b>	
<b><i>Intended Audience:</i></b>	<i>Required for all workers whose job assignment involves entry into Radiological Buffer Areas, Radiation Areas, and Radioactive Materials Areas.</i>
<b><i>Module Format:</i></b>	<i>Self-study. Consists of video, study guide, challenge exam and practical factors evaluation. Estimated completion time: 1.5 hours/exam and 1 hour/PFE.</i>
<b><i>Associated Retrain Period &amp; Format:</i></b>	<i>Two-year retrain. Study guide and challenge exam.</i>

Group / activity-specific training shall be given to each employee prior to work that includes a discussion of chemical hazards, hazard mitigation, location of MSDSs and other safety information, emergency response measures and any other procedural information. This training will be documented by the Group Leader / Department Manager and the records will be maintained for a period of five years.

## 6.2 NATIONAL ENVIRONMENTAL POLICY ACT

**Applicability Statement:** *This section applies to 1) Environment, Safety, Health and Assurance (ESH&A), 2) Public Affairs and Information Office, 3) Laboratory, Division and Program Directors, and 4) Group Leaders and Department Managers.*

### 6.2.1 REFERENCES

10 CFR 1021 National Environmental Policy Act Implementation Procedures  
DOE NEPA Compliance Guide Volumes I, II, August 1998  
Plan 10200.025 Ames Laboratory National Environmental Policy Act Plan

### 6.2.2 BACKGROUND

The National Environmental Policy Act (NEPA) applies to federal facilities and federally funded activities. Ames Laboratory activities are not allowed to pollute the natural environment, nor to destroy or damage cultural or historical resources. Other negative impacts to the environment or public areas must be eliminated or minimized.

### 6.2.3 PROGRAM INFORMATION

Ames Laboratory ESH&A maintains the NEPA Policy and review and documentation procedures. ESH&A also maintains DOE's Compliance Guide and the Laboratory's NEPA Plan. These documents were originally written to comply with the DOE Orders. The Ames Laboratory Public Affairs and Information Office is the official contact point for cultural resources and historic preservation.

**Laboratory Director / Deputy Director / Division Directors** – The Directors shall ensure that sufficient human and financial resources are provided to achieve and maintain compliance with NEPA.

**Program Directors / Department Managers** – Directors/managers shall ensure sufficient program/department funds are directed toward compliance with NEPA activities. These leaders shall consult with ESH&A about work activities that may have potential impacts on the environment and cultural or historic resources. They shall take measures to eliminate or minimize the environmental impacts of their work activities.

**Environment, Safety, Health & Assurance** – ESH&A personnel shall ensure the Laboratory is in compliance with the applicable rules, regulations and guidance. ESH&A shall maintain NEPA and environmental monitoring documentation to reflect current conditions. ESH&A shall review all new and significantly modified work activities for NEPA implications, and assist in obtaining the proper determinations.

**Public Affairs and Information Office** – Public Affairs will serve as the point of contact for identifying cultural and historical resources. Public Affairs will communicate any necessary information for compliance with the NEPA determination process to ESH&A.



#### **6.2.4 PERFORMANCE CHECKLIST**

The following checklist shall be utilized by supervisory personnel to assure compliance with this section of the Program Manual. These criteria will also be used by Laboratory personnel, DOE auditors and independent reviewers to assess the Laboratory's performance as mandated by the contractual relationship between DOE and ISU.

**Program Directors / Department Managers shall:**

- ☐ Assess potential impacts to the environment, cultural and historic sites when planning work.
- ☐ Allow for sufficient funding for environmental budget concerns.
- ☐ Notify ESH&A of new, or significantly modified, activities under supervision.
- ☐ Provide supplementary information needed to obtain a NEPA determination, if requested by ESH&A.

**Environment, Safety, Health & Assurance (ESH&A) shall:**

- ☐ Review work proposals for potential environmental impacts.
- ☐ Keep NEPA Policy and procedures current.
- ☐ Acquire necessary data and documentation as needed to supplement NEPA Policies and determinations.
- ☐ Keep environmental program plans, policies and procedures current.
- ☐ Allow for sufficient funding for environmental budget concerns.

**Group Leaders / Office or Section Supervisors / Work Leaders shall:**

- ☐ Assess potential environmental impacts when planning work.
- ☐ Allow for sufficient funding for environmental budget concerns.
- ☐ Notify their management and/or ESH&A of new, or significantly modified, activities.
- ☐ Provide supplementary information to management or to ESH&A to obtain a NEPA determination, if needed.

### **6.3 PROTECTION OF GROUNDWATER AND SURFACE WATER QUALITY AND COMPLIANCE WITH SPILL REPORTING**

*Applicability Statement: This section applies to 1) groups and departments that generate chemical or radiological wastes in rooms that have sink, floor, or in-hood drains, 2) groups and departments using chemicals and radionuclides outdoors, 3) Facilities Services 4) Engineering Services, 5) ESH&A, and 6) contracted site workers.*

#### **6.3.1 REFERENCES**

City of Ames / Iowa State University Pretreatment Agreements #3593-3 and #4093-3  
567 IAC 60 Wastewater Treatment and Disposal  
567 IAC 61 Water Quality Standards  
567 IAC 131 Reporting of Hazardous Conditions  
567 IAC 133 Determining Cleanup Actions and Responsible Parties  
567 IAC 39 Requirements for Properly Plugging Abandoned Wells  
641 IAC 38 Public Health General Provisions for Radiation Machines and Radioactive Materials  
40 CFR 112 Oil Pollution Prevention, Spill Prevention, Controls and Countermeasures  
40 CFR 131 Water Quality Standards  
40 CFR 300 National Oil and Hazardous Substances Pollution Contingency Plan  
40 CFR 302 Designation, Reportable Quantities and Notification  
Executive Order 12580, Sections 8 and 11, Superfund Implementation  
Manual 10200.003 Ames Laboratory Waste Management Program Manual  
Manual 10202.001 Ames Laboratory Radiation Safety Manual

#### **6.3.2 BACKGROUND**

The State of Iowa is the issuing authority for the City of Ames' National Pollutant Discharge Elimination System (NPDES) permit. The City of Ames has pretreatment agreements with ISU. ISU has a state issued stormwater permit. Since Ames Lab facilities are on ISU property and use ISU utility systems, Ames Lab wastewater and storm water are components of ISU.

#### **6.3.3 PROGRAM INFORMATION**

The rules and regulations for water quality and spills are based on the Clean Water Act and Amendments (CWA), the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and the Resource Conservation and Recovery Act (RCRA). The State of Iowa does not have delegated RCRA or CERCLA authority.

**Program Directors / Department Managers** – Directors/managers shall ensure sufficient program/department funds are directed toward compliance with clean water and spill regulations.

**Environment, Safety, Health & Assurance** – ESH&A personnel shall ensure the Laboratory is in compliance with the applicable rules, regulations and guidance. ESH&A will monitor as required by regulations. ESH&A shall review all new, and significantly modified work activities for clean water implications. ESH&A shall report spills to the environment to Iowa DNR, EPA Region VII and the U.S. Coast Guard as necessary. ESH&A will manage site restoration activities.

**Group Leaders / Office or Section Supervisors / Work Leaders** – These leaders shall consult with ESH&A about work activities that may have potential impacts on the storm and sanitary sewers. They shall take measures to eliminate or minimize the environmental impacts of their work activities. All employees shall follow the procedures and guidance in the Ames Laboratory Waste Management Program Manual. Personnel shall immediately report spills to ESH&A.

### 6.3.4 TRAINING

Detailed programmatic information is provided via the following institutional training modules:

<b>GENERAL EMPLOYEE TRAINING (GET) FOR NEW EMPLOYEES #AL-001</b>	
<b><i>Intended Audience:</i></b>	<i>Mandatory for all personnel.</i>
<b><i>Module Format:</i></b>	<i>Classroom Instruction. Estimated completion time: 2.0 hours.</i>
<b><i>Associated Retrain Period &amp; Format:</i></b>	<i>Retrain is required if an employee has been terminated from the Laboratory for more than a one-year period. All Ames Laboratory employees receive the Laboratory's Annual Retrain Mailing, which covers, Fire Safety, Cyber Security, Physical Security, informational updates and policy reminders.</i>

<b>HAZARDOUS WASTE GENERATOR'S TRAINING #AL-073</b>	
<b><i>Intended Audience:</i></b>	<i>Mandatory for personnel who work with hazardous chemicals.</i>
<b><i>Module Format:</i></b>	<i>Classroom Instruction with quiz. Estimated completion time: 1.0 hour.</i>
<b><i>Associated Retrain Period &amp; Format:</i></b>	<i>Annual retrain letter.</i>

<b>RADIOLOGICAL WORKER II (RADIOACTIVE MATERIALS) #AL-077</b>	
<b><i>Intended Audience:</i></b>	<i>Required for all workers whose job assignment involves entry into Radiological Buffer Areas, Radiation Areas, and Radioactive Materials Areas.</i>
<b><i>Module Format:</i></b>	<i>Self-study. Consists of video, study guide, challenge exam and practical factors evaluation. Estimated completion time: 1.5 hours/exam and 1 hour/PFE.</i>
<b><i>Associated Retrain Period &amp; Format:</i></b>	<i>Two-year retrain. Study guide and challenge exam.</i>

Group / activity-specific training shall be given to each employee prior to work that includes a discussion of chemical hazards, hazard mitigation, location of MSDSs and other safety information, emergency response measures and any other procedural information. This training will be documented by the Group Leader / Department Manager and the records will be maintained for a period of five years.

### **6.3.5 PERFORMANCE CHECKLIST**

The following checklist shall be utilized by supervisory personnel to assure compliance with this section of the Program Manual. These criteria will also be used by Laboratory personnel, DOE auditors and independent reviewers to assess the Laboratory's performance as mandated by the contractual relationship between DOE and ISU.

**Program Directors / Department Managers shall:**

- ☐ Consider potential impacts to water quality when planning work.
- ☐ Notify ESH&A of new, or significantly modified, activities.
- ☐ Allow for sufficient funding for environmental budget concerns.
- ☐ Ensure all employees generating hazardous waste have completed "Hazardous Waste Generator's Training", (AL-073).
- ☐ Ensure all employees generating radioactive waste have completed "Radiological Worker Training", (AL-077).

**Environment, Safety, Health & Assurance (ESH&A) shall:**

- ☐ Review work proposals for potential water quality impacts.
- ☐ Allow for sufficient funding for environmental budget concerns.
- ☐ Provide opportunity for all employees generating wastes to complete "Hazardous Waste Generator's Training", (AL-073) and "Radiological Worker Training", (AL-077).
- ☐ Maintain compliance with all applicable Local, State, and Federal regulations

**Group Leaders / Office or Section Supervisors / Work Leaders shall:**

- ☐ Consider potential water quality impacts when planning work.
- ☐ Complete "Hazardous Waste Generator's Training", (AL-073), if working with chemicals, radiological or other hazardous materials.
- ☐ Complete "Radiological Worker Training", (AL-077), if working with radioactive materials.
- ☐ Follow the procedures in the Ames Laboratory Waste Management Manual, and when necessary, the Ames Laboratory Radiation Safety Manual if working with chemicals, radiological or other hazardous materials.
- ☐ Notify ESH&A of new or significantly modified activities.

## 6.4 PROTECTION OF AIR QUALITY AND OZONE DEPLETING SUBSTANCES

**Applicability Statement:** *This section applies to 1) research groups using chemicals or radioactive materials inside fume hoods, gloveboxes or other containments with exhaust systems, 2) Facilities Services, 3) Engineering Services, 5) Public Affairs and Information, and 4) ESH&A.*

### 6.4.1 REFERENCES

567 IAC 22 Air Quality: Controlling Pollution  
567 IAC 131 Reporting of Hazardous Conditions  
40 CFR 61 NESHAP for Radionuclides Other Than Radon  
40 CFR 63 NESHAP for Source Categories  
40 CFR 82 Protection of Stratospheric Ozone  
Executive Order 13148 Greening the Government Through Leadership in Environmental Management  
Manual 10200.003 Ames Laboratory Waste Management Program Manual  
Manual 10202.001 Ames Laboratory Radiation Safety Manual

### 6.4.2 BACKGROUND

The State of Iowa is the issuing authority for air emission permits. The State exempts fume hoods and some minor research laboratory emission sources from permit requirements. EPA Region VII retains authority over ozone depleting substances. The DOE is very concerned with National Emission Standards for Hazardous Air Pollutants (NESHAP) for radionuclides and with protecting the stratospheric ozone.

### 6.4.3 PROGRAM INFORMATION

Most implementation and enforcement has been delegated to the states. State rules must be at least as strict as the federal rules. ESH&A compiles an annual report on this topic for DOE Ames Site Office. EPA Region VII retains authority over ozone depleting substances under 40 CFR 82.

**Program Directors / Department Managers** – Directors/Managers shall ensure sufficient program/department funds are directed toward compliance with air quality regulations. They shall ensure that equipment emissions are within the conditions of the state permits issued for the equipment.

**Environment, Safety, Health & Assurance** – ESH&A personnel shall ensure the Laboratory is in compliance with the applicable rules, regulations and guidance. ESH&A shall calculate the Laboratory's total annual radionuclide emissions, as prescribed by regulations and will monitor air emissions sources as prescribed by regulations. ESH&A shall review all new and significantly modified work activities for air quality implications.

**Group Leaders / Office or Section Supervisors / Work Leaders** – These leaders shall consult with ESH&A about work activities that may have radioactive or hazardous chemical air emissions. They shall take measures to eliminate or minimize the environmental impacts of their work activities. All employees shall follow the procedures and guidance in the Ames Laboratory Waste Management Program Manual and the Ames Laboratory Radiation Safety Manual. They shall ensure that equipment emissions are within the conditions of the state permits issued for their equipment. They shall ensure only trained, qualified workers handle ozone depleting substances. All employees whose work has a potential for air emissions shall follow the procedures and guidance appropriate to their specific work.

#### 6.4.4 TRAINING

Detailed programmatic information is provided via the following institutional training modules:

<b>GENERAL EMPLOYEE TRAINING (GET) FOR NEW EMPLOYEES #AL-001</b>	
<b><i>Intended Audience:</i></b>	<i>Mandatory for all personnel.</i>
<b><i>Module Format:</i></b>	<i>Classroom Instruction. Estimated completion time: 1.5 hours.</i>
<b><i>Associated Retrain Period &amp; Format:</i></b>	<i>Retrain is required if an employee has been terminated from the Laboratory for more than a one-year period. All Ames Laboratory employees receive the Laboratory's Annual Retrain Mailing, which covers, Fire Safety, Cyber Security, Physical Security, informational updates and policy reminders.</i>

<b>HAZARDOUS WASTE GENERATOR'S TRAINING #AL-073</b>	
<b><i>Intended Audience:</i></b>	<i>Mandatory for personnel who work with hazardous chemicals.</i>
<b><i>Module Format:</i></b>	<i>Classroom Instruction with quiz. Estimated completion time: 1.0 hour.</i>
<b><i>Associated Retrain Period &amp; Format:</i></b>	<i>Annual retrain letter.</i>

<b>RADIOLOGICAL WORKER II (RADIOACTIVE MATERIALS) #AL-077</b>	
<b><i>Intended Audience:</i></b>	<i>Required for all workers whose job assignment involves entry into Radiological Buffer Areas, Radiation Areas, and Radioactive Materials Areas.</i>
<b><i>Module Format:</i></b>	<i>Self-study. Consists of video, study guide, challenge exam and practical factors evaluation. Estimated completion time: 1.5 hours/exam and 1 hour/PFE.</i>
<b><i>Associated Retrain Period &amp; Format:</i></b>	<i>Two-year retrain. Study guide and challenge exam.</i>

Group / activity-specific training shall be given to each employee prior to work that includes a discussion of radioactive and chemical hazards, hazard mitigation, location of MSDSs and other safety information, emergency response measures and any other procedural information. This

training shall be documented by the Group Leader / Department Manager and the records maintained for a period of five years.

#### **6.4.5 PERFORMANCE CHECKLIST**

The following checklist shall be utilized by supervisory personnel to assure compliance with this section of the Program Manual. These criteria will also be used by Laboratory personnel, DOE auditors and independent reviewers to assess the Laboratory's performance as mandated by the contractual relationship between DOE and ISU.

**Program Directors / Department Managers shall:**

- ☐ Considered potential air quality impacts when planning work.
- ☐ Notify ESH&A of new or significantly modified activities.
- ☐ Ensure all employees working with ODS are properly trained and certified.
- ☐ Ensure all employees operating state permitted equipment shall abide by the conditions of the permit(s).
- ☐ Plan for sufficient funding for environmental budget concerns.
- ☐ Follow the procedures in the Ames Laboratory Waste Management Manual, and when necessary, the Ames Laboratory Radiation Safety Manual, if working with chemicals, radiological or other hazardous materials.
- ☐ Plan for sufficient funding for air quality budget concerns.

**Environment, Safety, Health & Assurance (ESH&A) shall:**

- ☐ Review work proposals for potential environmental impacts.
- ☐ Consider potential air quality impacts of planned work.
- ☐ Follow the procedures in the Ames Laboratory Waste Management Manual
- ☐ Follow the procedures in the Ames Laboratory Radiation Safety Manual when working with radioactive materials.
- ☐ Plan for sufficient funding for environmental budget concerns.
- ☐ Generate the annual radiological NESHAP report.
- ☐ Keep air quality program plan, policy and procedures current.
- ☐ Provide opportunity for all employees generating wastes to complete "Hazardous Waste Generator Training", (AL-073), and "Radiological Worker Training", (AL-077), if necessary.

**Group Leaders / Office or Section Supervisors / Work Leaders shall:**

- ☐ Consider potential air quality impacts when planning work.
- ☐ Notify ESH&A for new or significantly modified activities.
- ☐ Plan for sufficient funding for environmental budget concerns.
- ☐ Follow the procedures in the Ames Laboratory Waste Management Manual, and when necessary, the Ames Laboratory Radiation Safety Manual, if working with chemicals, radiological or other hazardous materials.
- ☐ Ensure all employees working with ODS are properly trained and certified.
- ☐ Ensure all employees operating state permitted equipment shall abide by the conditions of the permit(s).

## 6.5 WASTE MANAGEMENT

**Applicability Statement:** *This section applies to 1) research groups and work sections that generate hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) and its amendments, 2) those that generate used oil, 3) those that generate PCB or asbestos waste, and 4) research groups that generate radioactive waste.*

### 6.5.1 REFERENCES

FFCA Consent Order and Consent Agreement with EPA, executed February 27, 1996  
567 IAC 140 and 141 Hazardous Waste Rules  
40 CFR 260-263, 264 Subpart S, 265 and 268 Hazardous Waste Implementing Rules  
40 CFR 279 Standards for the Management of Used Oil  
40 CFR 61 Subpart M National Emission Standards for Asbestos  
40 CFR 763 Asbestos  
40 CFR 761 Polychlorinated Biphenyls Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions  
40 CFR Resource Conservation and Recovery Act (RCRA)  
10 CFR 835 Occupational Radiation Protection  
Executive Order 13101 Waste Prevention, Recycling and Federal Acquisition  
Executive Order 13148 Greening the Government Through Leadership in Environmental Management  
Manual 10200.003 Ames Laboratory Waste Management Program Manual  
Manual 10202.001 Ames Laboratory Radiation Safety Manual  
Plan 10200.023 Waste Minimization/Pollution Prevention Plan  
Procedure 10200.054 Hazard Identification for Excess Property and Materials  
Procedure 10200.071 Radioactive Waste Packaging & Shipping Procedure

### 6.5.2 BACKGROUND

Waste Management may include any or all of the following general activities, regardless of waste type:

- Wastes collection, storage and disposal
- Pollution prevention, waste minimization
- Affirmative procurement and recycling
- Compliance with U.S. EPA and State of Iowa waste regulations
- Superfund Amendments and Reauthorization Act (SARA), Title III chemical inventory reporting
- Building renovation activities

Specific hazardous waste regulations began appearing in the 1960's. These regulations have increased in number and specificity many times. Various regulations are enforceable at the federal, state and local levels. The State of Iowa does not have delegated RCRA authority, but it does have some hazardous waste rules. The Federal Facilities Compliance Act (FFCA) amended part of RCRA and resulted in consent orders and agreements between EPA and federal facilities.



### 6.5.3 PROGRAM INFORMATION

The major applicable law is the Resource Conservation and Recovery Act (RCRA). Federal RCRA regulations are in 40 CFR.

**Program Directors / Department Managers** – Directors/managers shall ensure sufficient program/department funds are directed toward compliance with hazardous waste regulations.

**Environment, Safety, Health & Assurance** – ESH&A personnel shall ensure the Laboratory is in compliance with the applicable rules, regulations and guidance. ESH&A will keep waste management plans, policies and procedures current. ESH&A shall collect wastes from satellite accumulation areas. Waste disposal will be accomplished by qualified contractors. ESH&A shall review all new, and significantly modified work activities for waste streams. ESH&A shall report spills to the environment to Iowa DNR, EPA Region VII and the U.S. Coast Guard as necessary

**Group Leaders / Office or Section Supervisors / Work Leaders** – These leaders shall consult with ESH&A about work activity waste streams. They shall take measures to eliminate or minimize the environmental impacts of their work activities. All employees shall follow the procedures and guidance in the Ames Laboratory Waste Management Program Manual. If working with radioactive materials, employees shall follow the guidance in the Ames Laboratory Radiation Safety Manual. Research personnel shall report spills to ESH&A.

### 6.5.4 TRAINING

Detailed programmatic information is provided via the following institutional training modules:

<b>GENERAL EMPLOYEE TRAINING (GET) FOR NEW EMPLOYEES #AL-001</b>	
<b><i>Intended Audience:</i></b>	<i>Mandatory for all personnel.</i>
<b><i>Module Format:</i></b>	<i>Classroom Instruction. Estimated completion time: 1.5 hours.</i>
<b><i>Associated Retrain Period &amp; Format:</i></b>	<i>Retrain is required if an employee has been terminated from the Laboratory for more than a one-year period. All Ames Laboratory employees receive the Laboratory's Annual Retrain Mailing, which covers, Fire Safety, Cyber Security, Physical Security, informational updates and policy reminders.</i>

<b>HAZARDOUS WASTE GENERATOR'S TRAINING #AL-073</b>	
<b><i>Intended Audience:</i></b>	<i>Mandatory for personnel who work with hazardous chemicals.</i>
<b><i>Module Format:</i></b>	<i>Classroom Instruction with quiz. Estimated completion time: 1.0 hour.</i>
<b><i>Associated Retrain Period &amp; Format:</i></b>	<i>Annual retrain letter.</i>

<b>RADIOLOGICAL WORKER II (RADIOACTIVE MATERIALS)</b>		<b>#AL-077</b>
<b><i>Intended Audience:</i></b>	<i>Required for all workers whose job assignment involves entry into Radiological Buffer Areas, Radiation Areas, and Radioactive Materials Areas.</i>	
<b><i>Module Format:</i></b>	<i>Self-study. Consists of video, study guide, challenge exam and practical factors evaluation. Estimated completion time: 1.5 hours/exam and 1 hour/PFE.</i>	
<b><i>Associated Retrain Period &amp; Format:</i></b>	<i>Two-year retrain. Study guide and challenge exam.</i>	

Group / activity-specific training shall be given to each employee prior to work that includes a discussion of chemical hazards, hazard mitigation, location of MSDSs and other safety information, emergency response measures and any other procedural information. This training shall be documented by the Group Leader / Department Manager and the records maintained for a period of five years.

### 6.5.5 PERFORMANCE CHECKLIST

The following checklist shall be utilized by supervisory personnel to assure compliance with this section of the Program Manual. These criteria will also be used by Laboratory personnel, DOE auditors and independent reviewers to assess the Laboratory and the ESH&A group performance as mandated by the contractual relationship between DOE and ISU.

**Program Directors / Department Managers shall:**

- ☐ Consider waste streams when planning work.
- ☐ Consider potentially radioactive wastes when planning work.
- ☐ Notify ESH&A of new, or significantly modified, activities, including renovations.
- ☐ Allow for sufficient funding for waste management concerns in budgets.
- ☐ Ensure all employees generating wastes have completed “Hazardous Waste Generator Training”, (AL-073).
- ☐ Follow the Ames Laboratory procedure for “Hazard Identification for Excess Property and Materials.

**Environment, Safety, Health & Assurance (ESH&A) shall:**

- ☐ Review work proposals for new and/or different waste streams.
- ☐ Review work proposals for radioactive waste implications.
- ☐ Plan sufficient funding for waste management budget.
- ☐ Provide opportunity for all employees generating wastes to complete “Hazardous Waste Generator Training”, (AL-073), and “Radiological Worker II – Radioactive Materials Training”, (AL-077), if necessary.
- ☐ Keep waste management plans, policies and procedures current.

**Group Leaders / Section Supervisors / Work Leaders shall:**

- ❑ Consider waste streams when planning work.
- ❑ Consider potentially radioactive wastes when planning work.
- ❑ Complete “Hazardous Waste Generator Training”, (AL-073), if working with chemicals, radiological or other hazardous materials.
- ❑ Complete “Radiological Worker II – Radioactive Materials Training”, (AL-077), if working with radioactive materials.
- ❑ Follow the procedures in the Ames Laboratory Waste Management Manual, and when necessary, the Ames Laboratory Radiation Safety Manual if working with chemicals, radiological or other hazardous materials.
- ❑ Notify ESH&A of their new, or significantly modified, waste streams.
- ❑ Ensure all employees generating wastes have completed “Hazardous Waste Generator Training”, (AL-073).
- ❑ Follow the Ames Laboratory procedure for “Hazard Identification for Excess Property and Materials.

## 6.6 ENVIRONMENTAL MONITORING, SAMPLING AND SURVEILLANCE

**Applicability Statement:** *This section applies to 1) contracted site workers; 2) Facilities Services Group, 3) ESH&A, 4) Groups with research activities conducted outdoors, and 5) groups generating large volume waste streams.*

### 6.6.1 REFERENCES

10 CFR 1021 National Environmental Policy Act Implementation Procedures  
40 CFR 61 NESHAP  
567 IAC 131 Reporting Hazardous Conditions  
567 IAC 133 Determining Cleanup Actions and Responsible Parties  
641 IAC 38 Public Health  
Executive Order 12580, Sections 8 and 11 Superfund Implementation  
Plan10202.004 Radiological Protection Program Plan

### 6.6.2 BACKGROUND

Certain activities may warrant the Laboratory to monitor, sample, or survey activities related to environmental compliance.

### 6.6.3 PROGRAM INFORMATION

The National Environmental Policy Act for the Department of Energy is 10 CFR 1021. NEPA is an enforceable federal regulation that requires federally controlled or funded facilities to evaluate the potential environmental impacts of their proposed activities. This may include sampling and analysis. The federal Clean Air Act (CAA) was passed in 1963, and the federal Clean Water Act (CWA) was passed in 1972. Most implementation and enforcement has been delegated to the states. State rules must be at least as strict as the federal. The State of Iowa does not have delegated RCRA or CERCLA authority. The Laboratory must comply with the federal RCRA, CERCLA, CAA, and CWA.

**Program Directors / Department Managers** – Directors/managers shall ensure sufficient program/department funds are directed toward compliance with environmental monitoring and surveillance requirements. They shall ensure that work complies with the conditions of state permits, federal and state regulations and Laboratory guidance documents.

**Environment, Safety, Health & Assurance** – ESH&A personnel shall ensure the Laboratory is in compliance with the applicable federal, state and Laboratory rules, regulations and guidance. They shall review the compliance status of state issued permits. ESH&A shall review all new and significantly modified work activities for environmental sampling and monitoring implications. ESH&A personnel will participate, assist or advise in collecting samples for analysis and monitor emission sources. ESH&A will maintain the NEPA Policy, and NEPA review and documentation procedures. ESH&A will follow all applicable Local, State, and Federal protocol for sampling and monitoring activities.

**Group Leaders / Section Supervisors / Work Leaders** – These leaders shall consult with ESH&A about work activities that may have potential to require environmental monitoring or surveillance. They shall take measures to eliminate or minimize the environmental impacts of their work activities. They shall ensure that work complies with the conditions of state permits, federal and state regulations, and Laboratory guidance documents. All employees whose work has a potential for requiring environmental monitoring or surveillance shall follow the procedures and guidance appropriate to their specific work.

#### **6.6.4 PERFORMANCE CHECKLIST**

The following checklist shall be utilized by supervisory personnel to assure compliance with this section of the Program Manual. These criteria will also be used by Laboratory personnel, DOE auditors and independent reviewers to assess the Laboratory's performance as mandated by the contractual relationship between DOE and ISU.

**Program Directors / Department Managers** shall:

- ☐ Consider potential environmental impacts and potential monitoring requirements when planning work.
- ☐ Plan for sufficient funding for environmental concerns in budgets.
- ☐ Ensure employees follow the procedures in the appropriate Ames Laboratory guidance documents when working with chemicals or other hazardous materials.
- ☐ Notify ESH&A of new or significantly modified activities.

**Environmental, Safety, Health & Assurance (ESH&A)** shall:

- ☐ Review planned work activities for monitoring implications.
- ☐ Supply information necessary to plan environmental monitoring or surveillance of work and other known Laboratory work.
- ☐ Ensure sufficient monitoring and surveillance is conducted to comply with regulations.

**Group Leaders / Section Supervisors / Work Leaders** shall:

- ☐ Consider potential environmental impacts and potential monitoring requirements when planning work.
- ☐ Plan for sufficient funding for environmental concerns in budgets.
- ☐ Follow the procedures in the appropriate Ames Laboratory guidance documents when working with chemicals or other hazardous materials.
- ☐ Ensure all employees operating state permitted equipment abide by the conditions of the permit(s).
- ☐ Notify ESH&A of new or significantly modified activities.
- ☐ Ensure that permitted equipment is operated within its permit conditions.
- ☐ Ensure employees follow the procedures in the appropriate Ames Laboratory guidance documents when working with chemicals or other hazardous materials.